IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

DECLARATION OF ACCURACY OF TRANSLATION IN LIEU OF SWON TRANSLATION (37 C.F.R. § 1.68)

The undersigned translator, Masao Mitsuyoshi, serving in a firm of Kyoritsu International (Tokyo Office) located in c/o Chanokiya Bldg., No. 3-1, Nihonbashi-Honcho 2-chome, Chuo-ku, Tokyo 103-0023, Japan, hereby certifies and declares that:

(1) I am fully conversant with both the Japanese language and the English language;

(2) I have translated the Japanese-language specification of the Japanese patent application, entitled "IMAGE FORMING APPARATUS AND DATA PROCESSING APPARATUS filed on November 8, 2002 in the Japanese Patent Office under the Filing No. 2002-324757 (324757/2002), into English, the Japanese-language specification being filed as a certified priority document in the United States Patent and Trademark Office together with the United States patent application entitled "IMAGE PROCESSING APPARATUS AND DATA PROCESSING APPARATUS" and filed on October 30, 2003 under Serial No. 10/699,279. A copy of the English translation is attached hereto; and

(3) The attached English translation is, to the best of my knowledge, and belief, an accurate and literal translation from the Japanese language into the English language.

The undersigned, Masao Mitsuyoshi, hereby declares further that all statements herein of my own knowledge are true; and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001 and that such willful false statements may jeopardize the validity of the matter with which this translation is used.

On this 9th day of March, 2007

Masao Mitsuyoshi

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[NAME OF DOCUMENT] SPECIFICATION
[TITLE OF INVENTION] IMAGE FORMING APPARATUS AND DATA PROCESSING APPARATUS
[SCOPE OF CLAIM FOR PATENT]

[CLAIM 1]

In an image forming apparatus to which a communication information terminal, which can transmit instruction information for updating application data in the image forming apparatus, is connected through a communication computer network, characterized by comprising:

a communication unit for receiving an instruction E-mail including the instruction information for executing an update processing of the application data transmitted from the communication information terminal;

a validity period set-up processing unit for setting up a validity period for the instruction information which is included in the instruction E-mail received;

a time calculation processing unit for calculating a necessary time required from a transmission of the instruction E-mail to a reception thereof;

a validity period discrimination processing unit for discriminating whether the necessary time calculated by the time calculation processing unit elapses the validity period set up by the validity period set-up processing unit or not; and

an update execution processing unit for executing an update processing in accordance with the instruction information included in the instruction E-mail and based on the result of the discrimination from the validity period discrimination processing unit.

[CLAIM 2]

The image forming apparatus set forth in claim 1, characterized by further comprising an invalidity processing unit, which can invalidate the instruction information when the discrimination that the necessary time elapses the validity period is outputted from the validity period discrimination processing unit.

[CLAIM 3]

The image forming apparatus set forth in claim 2, characterized by further comprising an E-mail preparing processing unit for preparing a reply E-mail, which can notify the fact that the update processing in accordance with the instruction information has not been executed when the instruction information is invalidated by the invalidity processing unit, wherein the communication unit transmits the reply E-mail prepared by the E-mail preparing processing unit to the communication information terminal.

[CLAIM 4]

The image forming apparatus set forth in claim 1, characterized in that the validity period set-up processing

unit can set up a limit designated in the instruction E-mail received by the communication unit as a validity period.

[CLAIM 5]

The image forming apparatus set forth in claim 1, characterized by further comprising an input unit for inputting the validity period for the instruction information, wherein the validity period set-up processing unit can set up the validity period inputted by the input unit.

[CLAIM 6]

The image forming apparatus set forth in claim 1, characterized by further comprising a web server for opening a web page to set up the validity period for the instruction information on a communication computer network, the validity period set-up processing unit can set up a limit designated through the web page as a validity period.

[DETAILED DESCRIPTION OF THE INVENTION]

[0001]

[TECHNICAL FIELD TO WHICH THE INVENTION BELONGS]

The present invention relates to a facsimile machine, printing machine, copy machine or a composite machine combining them (hereinafter referred to an image forming apparatus).

[0002]

[DESCRIPTION OF THE PRIOR ART]:

Heretofore, in order to update various application data of firmware, which includes a wake-up program of an image forming apparatus, an application program used for forming an image, etc., various function set-up data (e.g., set-up data for paper sizes, density, font, etc.), etc., a service engineer of a service company who takes charge of the image forming apparatus has had to proceed to a customer, while carrying a personal computer of a notebook type in which application data used for the update have been stored. Accordingly, the service engineer's burden to the update job is very heavy.

[0003]

Therefore, in recent years, a remote operation technique as described below has been proposed. Namely, an image forming apparatus is connected to a computer network, so that an E-mail in which new application data are described can be transmitted through the computer network to the image forming apparatus so as to execute automatically an update processing of old application data on the side of the image forming apparatus (see, for example, the following patent document).

[0004]

[PATENT DOCUMENT]

Japanese Patent Application Laid-open Publication No. 2000-29648 (Pages 2-4, Figure 1)

[0005]

[PROBLEM TO BE SOLVED BY THE INVENTION]

However, in case that an image forming apparatus is powered off or that a copying operation is currently being performed by the apparatus, the reception of an E-mail is disabled. Even when the E-mail can be received, an update processing will not begin immediately. Therefore, if a service engineer instructs an update of application data through the E-mail, it will become possible to fail to execute the update at a desired time.

[0006]

Further, in case that an E-mail with which new application data are described is received by an image forming apparatus considerably later than its transmission date, the contents of the application data may already be old. As a result, it will be possible to generate the fact that the application data themselves are useless.

[0007]

In this manner, there is no assurance that the update is executed just after transmitting an E-mail to the image forming apparatus. In other words, the reliability on the update of the application data by making use of the E-mail is relative poor.

[0008]

A problem to be soled by the present invention is to set up a validity period at the time when instructing an update of application data given to an image forming apparatus connected with a communication computer network so as to prevent from the image forming apparatus from executing an update processing in accordance with an old instruction.

[0009]

[MEANS FOR SOLVING THE PROBLEM]

The invention set forth in claim 1 is an image forming apparatus to which a communication information terminal, which can transmit instruction information for updating application data in the image forming apparatus, is connected through a communication computer network, which is characterized by comprising:

a communication unit for receiving an instruction E-mail including the instruction information for executing an update processing of the application data transmitted from the communication information terminal;

a validity period set-up processing unit for setting up a validity period for the instruction information which is included in the instruction E-mail received;

a time calculation processing unit for calculating a necessary time required from a transmission of the instruction E-mail to a reception thereof;

a validity period discrimination processing unit for discriminating whether the necessary time calculated by the time calculation processing unit elapses the validity period

set up by the validity period set-up processing unit or not; and

an update execution processing unit for executing an update processing in accordance with the instruction information included in the instruction E-mail and based on the result of the discrimination from the validity period discrimination processing unit.

[0010]

The invention set forth in claim 2 is the image forming apparatus set forth in claim 1, which is characterized by further comprising an invalidity processing unit, which can invalidate the instruction information when the discrimination that the necessary time elapses the validity period is outputted from the validity period discrimination processing unit.

[0011]

According to the invention set forth in claims 1 and 2, it can be possible to prevent the image forming apparatus from executing an update processing in accordance with an old instruction which has expired its validity period, because of setting up a validity period of instruction information included in an instruction E-mail, executing an update processing of the application data when a necessary time required between a transmission of the received instruction E-mail to a reception thereof does not elapse the validity period, and invalidating the instruction information in the instruction E-mail when the necessary time elapses the validity period.

[0012]

The invention set forth in claim 3 is the image forming apparatus set forth in claim 2, which is characterized by further comprising an E-mail preparing processing unit for preparing a reply E-mail, which can notify the fact that the update processing in accordance with the instruction information has not been executed when the instruction information is invalidated by the invalidity processing unit, wherein the communication unit transmits the reply E-mail prepared by the E-mail preparing processing unit to the communication information terminal.

[0013]

According to the invention set forth in claim 3, it can be possible to confirm by a user, who instructs the update processing, the fact that the update processing is not executed normally, because of transmitting to a communication information terminal a reply E-mail, which notifies the fact that the update processing in accordance with the instruction information is not executed, when the instruction information is invalid.

[0014]

The invention set forth in claim 4 is the image forming

apparatus set forth in claim 1, which is characterized in that the validity period set-up processing unit can set up a limit designated in the instruction E-mail received by the communication unit as a validity period.

[0015]

According to the invention set forth in claim 4, a user who instructs the update processing in the communication unit can easily set up the validity period, because of setting up the validity period designated by the instruction E-mail.

[0016]

The invention set forth in claim 5 is the image forming apparatus set forth in claim 1, which is characterized by further comprising an input unit for inputting the validity period for the instruction information, wherein the validity period set-up processing unit can set up the validity period inputted by the input unit.

[0017]

According to the invention set forth in claim 5, the operation property for setting up the validity period can be improved, because the validity period can be set up on the side of the input unit of the image forming apparatus.

[0018]

The invention set forth in claim 6 is the image forming apparatus set forth in claim 1, which is characterized by further comprising a web server for opening a web page to set up the validity period for the instruction information on a communication computer network, the validity period set-up processing unit can set up a limit designated through the web page as a validity period.

[0019]

According to the invention set forth in claim 6, it can be possible to set up the validity period easily, because the validity period can be set up through the web page.

[0020]

[MODE OF CARRING OUT THE INVENTION]

Herein after, a mode of carrying out the present invention will be described in detail with making reference to the accompanying drawings.

[0021]

In the first place, the constitution is described.

A whole arrangement of a managing system 100 including an image forming apparatus of the present invention is shown in Fig. 1. In Fig. 1, the managing system 100 comprises an image forming apparatus 10, a portable cellular phone set 30 as a communication information terminal carried by a service engineer of a managing service company who manages the image forming apparatus, and a file server 50 storing therein a data file for application data for the image forming apparatus 10, and these components are connected with one another through Internet as a communication computer network.

In this exemplified mode, such an example as connecting each one of the image forming apparatus 10, the portable cellular phone set 30, and the file server 50 with the Internet is described, but the number of these components and their arrangement positions are not limited.

[0022]

Further, in Fig. 1, the image forming apparatus 10 and a PC (personal Computer) 10a are connected with each other through a LAN (Local Area Network) in a manner such that it becomes possible to transmit/receive data. The PC 10a can transmit various instruction information to the image forming apparatus 10 in accordance with the operation instruction inputted by the service engineer.

[0023]

The portable cellular phone set 30 is provided with an E-mail communication function, thereby preparing an instruction E-mail including instruction information (hereinafter, refers to a command) instructing an execution of an update processing of application data for the image forming apparatus 10, and thereafter transmitting the command to the image forming apparatus 10.

[0024]

The file server 50 can transmit a data file for designated application data to the image forming apparatus 10 when the application data are requested by the image forming apparatus 10.

[0025]

Next, the image forming apparatus 10 will be described with making reference to Fig. 2.

A functional constitution of the image forming apparatus 10 is shown in Fig. 2. In Fig. 2, the image forming apparatus 10 is composed of a CPU (Central Processing Unit) 11, an input unit 12, a display unit 13, a communication unit 14, a RAM (Random Access Memory) 15, a storage unit 16, a validity period storage unit 17, and an image forming unit 18, all of which are interconnected to one another through a bus 19.

[0026]

The CPU 11 opens in the RAM 15 various system programs stored in the storage unit 16 such as, for example, a basic operation control program, an E-mail processing program (see Fig. 2 and Fig. 3), which relates to the present invention, etc., and in cooperation with these programs, provides total control for the processing operations.

[0027]

The input unit 12 is composed of a cursor key for inputting the validity period, a numeric key, and various function keys, and outputs a depression signal corresponding to a depressed key toward the CPU. It should be noted that the input unit 12 may include pointing devices such as, for

example, a mouse, a touch panel, etc., as occasion demands.

[0028]

The display unit 13 has a display screen, such as an LCD (Liquid Crystal Display), etc., and in accordance with a display instruction received from the CPU 11, displays an operation screen for the image forming apparatus, the contents of the E-mail received from the communication unit 14, etc.

[0029]

The communication unit 14 is composed of a computer network interface card, a modem, a terminal adaptor, etc. The communication unit 14 can receive the instruction E-mail transmitted from the portable cellular phone set 30, and can transmit the reply E-mail instructed by the CPU 11 to the portable cellular phone set 30. In addition, The communication unit 14 can receive the data file for the application data for use in the update from the file server 50 at the time of update processing.

[0030]

The RAM 15 forms a work area to temporarily store various programs executed by the CPU 11 and data processed by the various programs.

[0031]

The storage unit 16 is constituted by a magnetic, optical, or semiconductor memory, and mounted on the image forming apparatus 10 fixedly or detachably. In this storage unit 16, in addition to a basic operation control program for the image forming apparatus 10, an E-mail processing program, which relates to the present invention, is also stored. The E-mail processing program, as shown in Fig. 2, includes a validity period set-up processing section S2, a time calculation processing section S3, a validity period discrimination processing section S4, an invalidity processing section S5, an E-mail preparation processing section S6, and an update execution processing section S7.

[0032]

The storage unit 16 may store a difference in time in response to a place put the image forming apparatus 10 in.

[0033]

The validity storage unit 17 can store the validity period of the command included in the instruction E-mail.

[0034]

The image forming unit 18 comprises a scanner so as to form an image on a recording paper having a designated size on the basis of an image data read out by the scanner. As a method of forming an image, an ink jet method or an electrophotographic method can be used, but it is not limited.

[0035]

Subsequently, an operation of the exemplified mode is described.

With making reference to Fig. 3, the E-mail processing executed by the image forming apparatus 10 is described hereinafter.

In the E-mail processing shown in Fig. 3, it is discriminated by a processing in the step S1 whether an instruction E-mail for updating an application data transmitted from the portable cellular phone set 30 has been received through the Internet and the communication unit 14.

[0036]

Now, one example of the instruction E-mail is shown in Fig. 4. In the instruction E-mail, a command [Get progl, name = "copieProgl.bin"], which instructs the image forming apparatus to execute the update processing by acquiring an updating data file in a data file "CopieProgl" of an image forming program, and a message [Command in 60 min], which indicates the fact that the validity period of the command is within 60 minutes after transmitting the instruction E-mail, are described. It should be noted that, not all the validity time after transmitting the instruction E-mail is designated, the validity period will be able to designate the validity date and hour. For example, the validity period can be defined in the instruction E-mail as [Command 200209171252], so that the validity period is designated at 12 o'clock 52 minutes of September 17, 2002.

[0037]

When a validity period of the command for executing the update processing is read out from the received instruction E-mail, the validity period is stored in the validity period storage unit 17 by the cooperation of the validity period set-up processing section S2.

[0038]

Subsequently, a transmission time of the instruction E-mail and a difference in time at the transmission place are read out from a header of the instruction E-mail. According to the example shown in Fig. 4, [11 o'clock 52 minutes 38 seconds of September 17, 2002 (Tuesday)] as a transmission time and [+9 hours] as a difference in time at the transmission place are read out from the header of the instruction E-mail. In addition, a reception time of the instruction E-mail is read out from a built-in clock, not shown, of the image forming apparatus 10, and further a difference in time at the reception place (a difference in time at a place put the image forming apparatus 10 in) is read out from the storage unit 16.

[0039]

Still further, in the time calculation processing section S3, a necessary time required from the transmission of the instruction E-mail to the reception thereof is calculated from the read out transmission time, reception time, respective differences in time at both the transmission place

and the reception place. When the necessary time is calculated, a validity period is read out from the validity period storage unit 17, so that it can be discriminated by the validity period discrimination processing section S4 whether the calculated necessary time expires the validity period or not.

[0040]

In case that the calculated necessary time is 90 minutes, while the validity period stored in the validity period storage unit 17 is 60 minutes, it is discriminated that the necessary time expires the validity period (see "YES" of the step S4 in Fig. 3). As a result, the processing is shifted to the invalidity processing section S5, so that the command in the instruction E-mail is invalidated. And thereafter, a reply E-mail for notifying the fact that the update processing has not been executed is prepared in the E-mail preparation processing section S6. This reply E-mail prepared is transmitted through the communication unit 14 and the Internet to the portable cellular phone set 30.

[0041]

Now, one example of the reply E-mail is shown in Fig. 5. In the reply E-mail, a message [Command uncompleted], which indicates the fact that the update processing in accordance with the command has not been executed, and another message [Time error], which denotes the cause of the invalidity that the validity period has been expired, are described.

[0042]

On the other hand, in case that the calculated necessary time is 30 minutes, while the validity period stored in the validity period storage unit 17 is 60 minutes, it is discriminated that the necessary time does not expire the validity period (see "NO" of the step S4 in Fig. 3). The update processing in accordance with the command in the instruction E-mail is executed by the update execution processing section S7. On completion of the update execution processing, it is preferable to prepare a reply E-mail notifying the fact that the update processing has been completed and transmit this reply E-mail to the portable cellular phone set 30.

[0043]

In the update execution processing section S7, a request information for requesting a data file for the application data designated by the command in the instruction E-mail is transmitted to the file server 50, so that the data file for the application data is acquired from the file server 50. Accordingly, the update is executed by overwriting the acquired application data in the data file.

[0044]

As is understood from the forgoing description, the image forming apparatus acquires the validity period in the

received instruction E-mail, calculates the necessary time required from the transmission of the instruction E-mail to the reception thereof, invalidates the command in the instruction E-mail in case that the calculated necessary time has elapsed over the validity period and, on the other hand, executing the update processing in accordance with the command in the instruction E-mail in case that the calculated necessary time is within the validity period. By this, it can be possible to prevent the image forming apparatus from executing the update processing with making use of the old invalid instruction E-mail. Therefore, it makes possible to execute the update processing in response to the service engineer's intention.

[0045]

In addition, in case that the command in the instruction E-mail was invalid, since the image forming apparatus 10 prepares the reply E-mail notifying the fact that the update processing has not been executed and transmit the reply E-mail to the portable cellular phone set 30, the service engineer who instructs the update processing by making use of the instruction E-mail can confirm the fact that the update processing has been not executed normally.

[0046]

It should be noted that the described contents for the present exemplified mode relate to one preferable embodiment of the image forming apparatus on which the present invention is applied. This is not the best for the present invention.

[0047]

In the above description, the validity period is designated by the service engineer, and the validity period is set up in the validity period storage unit 17 when the image forming apparatus 10 reads out it from the instruction E-mail received thereby from the portable cellular phone set 30. The set-up method for the validity period is not limited to this. For example, it is preferable to set up the validity period in the image forming apparatus by the operation of the service engineer's input through the input unit 12.

[0048]

Further, the image forming apparatus 10 can be provided therein with a web page for making reference to running state and running history of the image forming apparatus 10 or executing various environment set-ups thereof. In this image forming apparatus 10, it is preferable to set up the validity period through the web page by the service engineer who can browse a browser in the PC 10a.

[0049]

Still further, the validity period is preferably set up in every reception of the instruction E-mail or fixed to a validity period previously set up in the image forming

apparatus 10.

[0050]

Otherwise, the detailed configuration and the detailed operation of the image forming apparatus 10 in the present exemplified mode can be modified as needed without departing from the subject of the present invention.

[0051]

[EFFECTS OF THE INVENTION]

According to the invention set forth in claims 1 and 2, it can be possible to prevent the image forming apparatus from executing an update processing in accordance with an old instruction which has expired its validity period, because of setting up a validity period of instruction information included in an instruction E-mail, executing an update processing of the application data when a necessary time required between a transmission of the received instruction E-mail to a reception thereof does not elapse the validity period, and invalidating the instruction information in the instruction E-mail when the necessary time elapses the validity period.

[0052]

According to the invention set forth in claim 3, it can be possible to confirm by a user, who instructs the update processing, the fact that the update processing is not executed normally, because of transmitting to a communication information terminal a reply E-mail, which notifies the fact that the update processing in accordance with the instruction information is not executed, when the instruction information is invalid.

[0053]

According to the invention set forth in claim 4, a user who instructs the update processing in the communication unit can easily set up the validity period, because of setting up the validity period designated by the instruction E-mail.

[0054]

According to the invention set forth in claim 5, the operation property for setting up the validity period can be improved, because the validity period can be set up on the side of the input unit of the image forming apparatus.

[0055]

According to the invention set forth in claim 6, it can be possible to set up the validity period easily, because the validity period can be set up through the web page.

[BRIEF DESCRIPTION OF THE DRAWINGS]

[Fig. 1]

This figure is a schematic block diagram showing a whole constitution of a managing system 100 according to an exemplified mode to which the present invention is applied.

[Fig.2]

This figure is a block diagram showing a functional

constitution of an image forming apparatus 10 shown in Fig. 1.

[Fig. 3]

This figure is a flow chart for explaining an E-mail processing executed by the image forming apparatus 10.

[Fig. 4]

This figure is a view showing an example of an instruction E-mail received in the E-mail processing.

[Fig. 5]

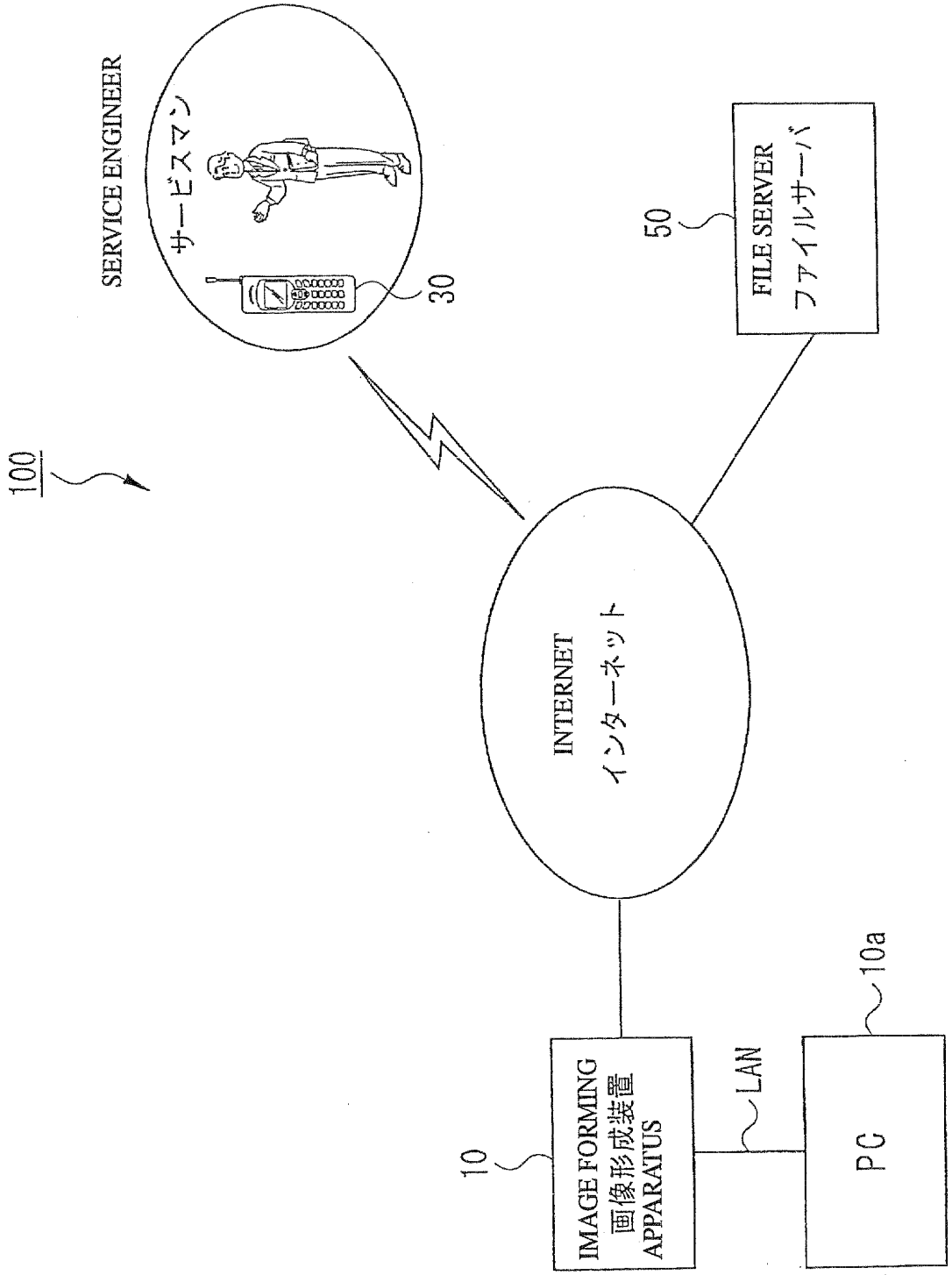
This figure is a view showing an example of a reply E-mail received in the E-mail processing.

[DESCRIPTION OF REFERENCE NUMERALS]

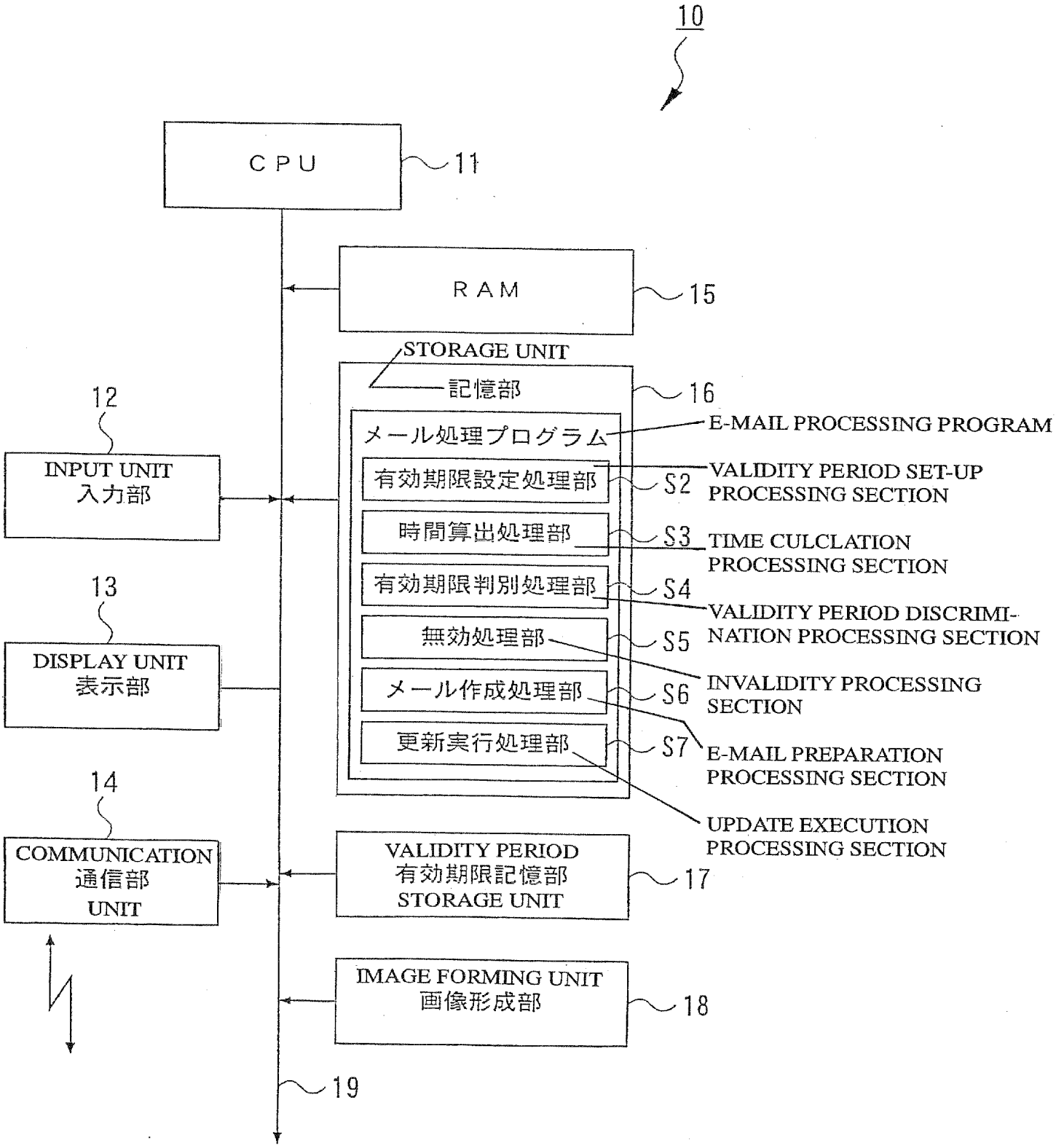
10	Image forming apparatus
11	CPU
12	Input unit
13	Display unit
14	Communication unit
15	RAM
16	Storage unit
17	Validity period storage unit
18	Image forming unit
30	Portable cellular phone set
50	File server
100	Managing system

[NAME OF DOCUMENT] DRAWINGS

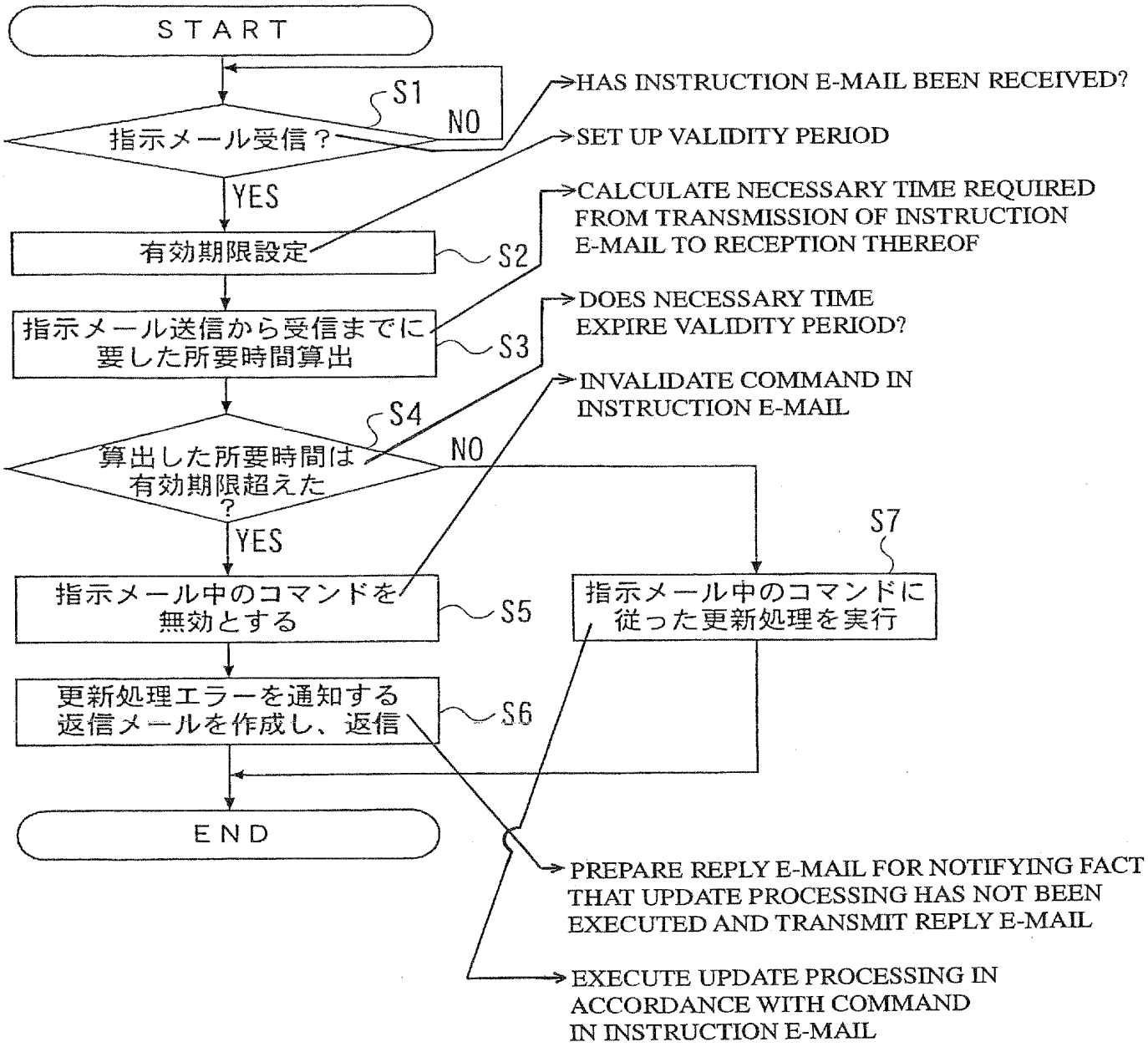
[Fig. 1]



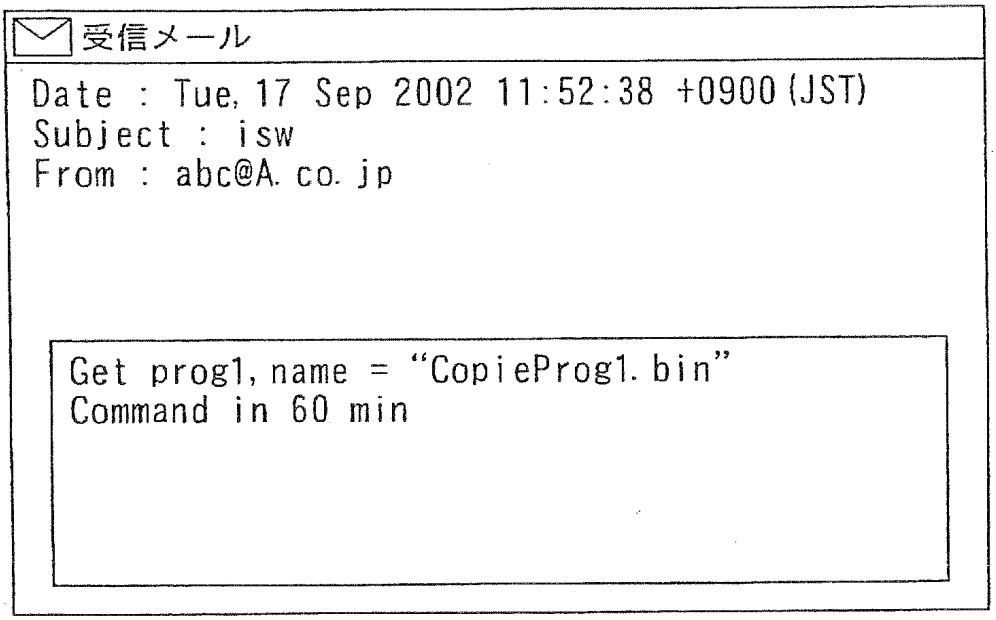
[Fig. 2]


10
CPU
11
RAM
15
STORAGE UNIT
記憶部
16
12
INPUT UNIT
入力部
メール処理プログラム
E-MAIL PROCESSING PROGRAM
有効期限設定処理部
S2
VALIDITY PERIOD SET-UP PROCESSING SECTION
時間算出処理部
S3
TIME CULCLATION PROCESSING SECTION
13
DISPLAY UNIT
表示部
有効期限判別処理部
S4
VALIDITY PERIOD DISCRIMI-NATION PROCESSING SECTION
無効処理部
S5
INVALIDITY PROCESSING SECTION
メール作成処理部
S6
E-MAIL PREPARATION PROCESSING SECTION
更新実行処理部
S7
UPDATE EXECUTION PROCESSING SECTION
14
COMMUNICATION
通信部
UNIT
VALIDITY PERIOD
有効期限記憶部
STORAGE UNIT
17
IMAGE FORMING UNIT
画像形成部
18
19

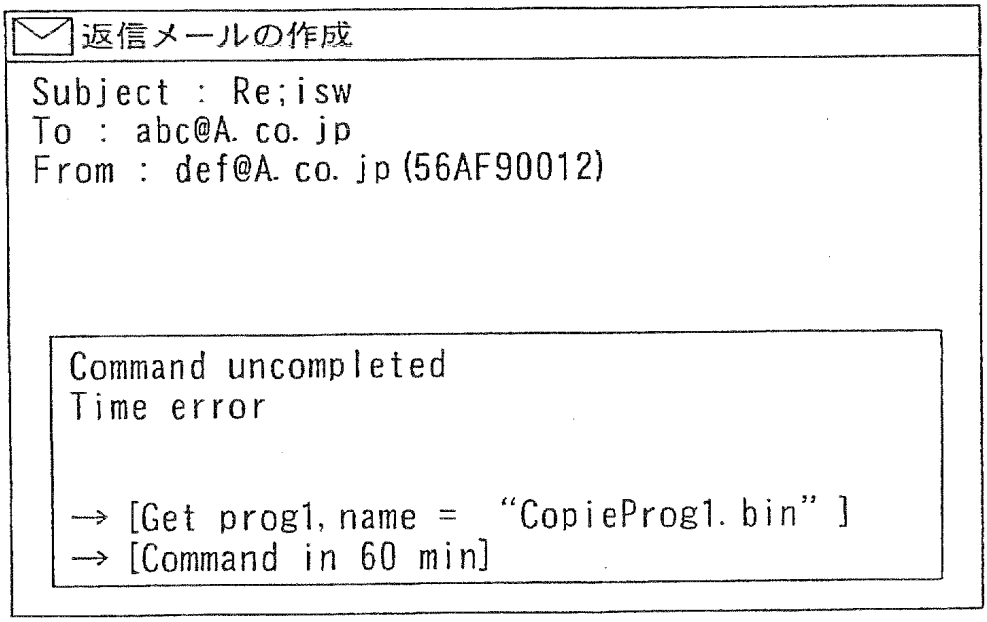
[Fig. 3]


START
S1
指示メール受信？
NO
YES
HAS INSTRUCTION E-MAIL BEEN RECEIVED?
有効期限設定
S2
SET UP VALIDITY PERIOD
CALCULATE NECESSARY TIME REQUIRED FROM TRANSMISSION OF INSTRUCTION E-MAIL TO RECEPTION THEREOF
指示メール送信から受信までに要した所要時間算出
S3
DOES NECESSARY TIME EXPIRE VALIDITY PERIOD?
S4
算出した所要時間は有効期限超えた？
NO
YES
INVALIDATE COMMAND IN INSTRUCTION E-MAIL
S7
指示メール中のコマンドを無効とする
S5
指示メール中のコマンドに従った更新処理を実行
更新処理エラーを通知する返信メールを作成し、返信
S6
END
PREPARE REPLY E-MAIL FOR NOTIFYING FACT THAT UPDATE PROCESSING HAS NOT BEEN EXECUTED AND TRANSMIT REPLY E-MAIL
EXECUTE UPDATE PROCESSING IN ACCORDANCE WITH COMMAND IN INSTRUCTION E-MAIL

[Fig. 4]


受信メール
Date : Tue, 17 Sep 2002 11:52:38 +0900 (JST)
Subject : isw
From : abc@A. co. jp
Get prog1, name = "CopieProg1. bin"
Command in 60 min

[Fig. 5]


返信メールの作成
Subject : Re;isw
To : abc@A. co. jp
From : def@A. co. jp (56AF90012)
Command uncompleted
Time error
→ [Get prog1, name = "CopieProg1. bin"]
→ [Command in 60 min]

[NAME OF DOCUMENT] BRIEF

[ABSTRACT]

[PROBLEM] To set up a validity limit with respect to an update instruction of application information given to an image forming apparatus and run by connecting the apparatus with a communication network, and thereby preventing the execution of the update processing in accordance with the old instruction.

[SOLVING MEANS] In an E-mail processing, when an instruction E-mail for an update of application information is received through a communication unit 14 from a portable cellular telephone set 30, a validity limit designated by the E-mail is read out and stored in a validity limit storage unit 17. Successively, a time when the instruction E-mail has been transmitted and a difference in time at a place where the instruction E-mail has been transmitted are read out from a header of the instruction E-mail and, on the other hand, a time when the instruction E-mail has been received and a difference in time at a place where the instruction E-mail has been received are read out from a main body of an image forming apparatus, so that the time required between the transmission of the instruction E-mail and the reception thereof is calculated. As a result, it is discriminated whether the required time thus calculated exceeds the validity limit or not. If the required time exceeds the validity limit, it is determined that a command in the instruction E-mail is invalid, and a reply E-mail, which notifies the fact that the update processing in accordance with the command existing in the instruction E-mail has not been executed due to an expiration of the validity limit, is prepared.

[DRAWINGS TO BE SELECTED] Fig. 1